

UNITED STATES OF AMERICA  
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: July 31, 1973

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD  
at its office in Washington, D. C.  
on the 12th day of July 1973

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FORWARDED TO: )  
Honorable Alexander P. Butterfield )  
Administrator )  
Federal Aviation Administration )  
Washington, D. C. 20591 )  
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SAFETY RECOMMENDATION A-73-56

The National Transportation Safety Board's investigation of a fatal accident involving a Piper PA-28-180, N8964J, at Corona, California, disclosed failures in the rear passenger seatbelt cables. The accident occurred on January 11, 1973, when the aircraft crashlanded in an orange grove after the engine failed in flight. Three occupants were seriously injured and one was fatally injured.

The pilot and one passenger in the forward seats were flailed about, but were restrained in their seats by their seatbelts. The two passengers on the rear bench seat were catapulted forward and clear of the aircraft when the two inboard seatbelt cables failed in the same location. One of these passengers sustained fatal injuries.

The Safety Board's Metallurgical Laboratory examination determined that the fractures in the two seatbelt attachment cables (7 strand 19 wire, 1/8-inch diameter construction) were overload fractures; there was no evidence of a progressive-type failure.

Although the seatbelts and cables used in this installation probably meet the minimum requirements prescribed in FAR 23.1413 when subjected to straight tensile loads, the Board believes that the seatbelt failures in this accident were caused by a stress concentration introduced at the point where the cables were routed over the rear seat frame.

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In view of the above, we believe that the rear seatbelt cable installation in this aircraft does not provide the necessary safety for the rear seat occupants. Therefore, the Safety Board recommends that the Federal Aviation Administration:

Issue an Airworthiness Directive for all Piper PA-28-140/180 aircraft, which have the rear bench seat installation, to require replacement of the present 1/8-inch diameter seatbelt attachment cable with a stronger cable, or, alternatively, to reroute the present 1/8-inch cable to eliminate the stress concentration which may result from the cable contact with the seat frame.

Reed, Chairman; McAdams, Thayer, Burgess, and Haley, Members, concurred in the above recommendation.

  
By: John H. Reed  
Chairman

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SAFETY BOARD  
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